

Connecticut Behavioral Health Risks: Older Adult Health



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Joxel Garcia, M.D., M.B.A., Commissioner

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Bureau of Community Health
Ardell A. Wilson, D.D.S., M.P.H.
Bureau Chief

Report Prepared by
Mary Adams
Epidemiologist

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For more information about the Behavioral Risk Factor Surveillance System (BRFSS), visit the CDC website at www.cdc.gov/brfss. For questions about this report or additional copies, contact the Connecticut Department of Public Health at 410 Capitol Avenue, Hartford, CT 06134-0308, (860) 509-7662.

Connecticut Department of Public Health

Connecticut Behavioral Health Risks
Older Adult Health

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Executive Summary

Connecticut Behavioral Health Risks: Older Adult Health includes results from the 2000 and 2001 Behavioral Risk Factor Surveillance System (BRFSS) on health conditions that disproportionately affect older adults. Older adults were defined as those ages 55 and older, representing 805,000 persons in Connecticut. Only non-institutionalized adults were surveyed, thus excluding the nursing home population. Eight conditions were included: arthritis; high blood pressure; high cholesterol; disability (limited in any way, in any activities, because of physical, mental or emotional problems); cardiovascular disease (heart attack, angina, coronary artery disease, or stroke); diabetes; osteoporosis; and prostate cancer. The self-reported results are specific to the questions asked on the survey and may differ from data based on other criteria.

Key findings:

Health Conditions among Connecticut Older Adults (age 55+) BRFSS 2000 and 2001

	Prevalence	Est. Number
Arthritis	50.6%	407,000
High Blood Pressure	46.2%	370,000
High Cholesterol	41.0%	322,000
Disability	24.2%	184,000
Cardiovascular Disease	16.8%	135,000
Diabetes	13.1%	105,000
Osteoporosis	8.8%	68,000
Prostate Cancer (among men)	6.0%	20,000

- At least eight in ten older adults (83.5%) reported one or more of these conditions, over half reported two or more, and 29.4% reported three or more.
- All eight conditions showed some degree of negative association with the physical health of older adults, as measured by self-reported health status and/or the number of days of poor physical health in the past month.
- Among older adults, all conditions except prostate cancer were associated with disability, as measured by self-reported activity limitation and/or the number of days that activity was limited in the past month.
- Compared with older adults without the condition, older adults with arthritis or disability reported more poor mental health days in the past month.
- Among older adults, age, lower household income, excess body weight, and physical inactivity were associated with many of these health conditions.

I. Introduction

Connecticut, along with the rest of the United States, is aging. This is due in part to the maturation of the baby boom generation (persons born between 1946 and 1964), and also to increases in life expectancy for both men and women. As a result older adults, in particular those ages 85 and older, are the fastest growing segment of the population.

These changes have important implications for public health, as mortality and morbidity tend to increase with age. This is especially true for many chronic diseases and conditions associated with disability, such as heart disease, diabetes, arthritis, and cancer. Compared with younger persons, older adults also use more health care resources, including hospital and nursing home services, medical supplies, prescription and over-the-counter medications, and home care. The number and proportion of older persons with chronic conditions will be a key issue for public health professionals. In many cases, interventions can reduce the burden of chronic conditions through lifestyle changes, use of preventive services such as cholesterol screening, and appropriate management of existing disease. In addition to improving the health status of affected older adults, such interventions can reduce the burden on family members responsible for their care.

This report addresses eight conditions that are, and will continue to be, key issues for older adults, based on data from the 2000 and 2001 Connecticut Behavioral Risk Factor Surveillance System (BRFSS). The conditions were chosen because their prevalence rates are very age-dependent, with relatively high rates among older adults in Connecticut. The conditions are arthritis, high blood pressure, high blood cholesterol, disability, cardiovascular disease, diabetes, osteoporosis, and prostate cancer. All eight conditions have important public health implications either because of the burden they impose, or their association with other chronic conditions, such as heart disease or stroke. The availability of data was also a factor in the selection of these conditions; exclusion from this report does not mean an issue is not a concern for older adults. Visual impairment, another health issue among older adults in Connecticut, is not addressed in this report because it was addressed earlier.¹ The association of these conditions with physical and mental health and activity limitation (for conditions other than disability), along with care-giving issues, are also discussed.

The definition of *older adult* used in this report includes adults who were 55 years of age and older. This age group was chosen to include as large a sample of older adults as possible. Other studies² have limited *older adults* to persons 65 years of age or older, but Connecticut data indicate that many conditions and risk factors are also elevated among adults ages 55-64.³ This lower age limit also closely approximates the leading edge of the baby boomers; that is, the oldest of the baby boomers are just now entering this age group. Within this group of older adults, data are presented for ages 55-64, 65-74, and 75 and older. In Connecticut, about 805,000 adults were ages 55 and older in 2001.

II. Methods

The Behavioral Risk Factor Surveillance Survey (BRFSS) collects data from non-institutionalized adults, ages 18 and older, through monthly random digit dialed telephone surveys. The BRFSS is coordinated and partially funded by the Centers for Disease Control and Prevention (CDC) and is conducted in all 50 states. Connecticut conducted 3,915 surveys in 2000 and 7,752 during 2001. The results for the two years were not combined, because in most cases the same issues were not addressed both years. Bilingual interviewers conducted about 5% of all surveys in Spanish. Raw data from each year were adjusted to account for different probabilities of selection and to be representative of the Connecticut adult population by age and sex for that year.

Because the sample frame excludes institutions, older adults who were temporary or permanent residents of nursing homes were not included. An estimated 5% of the population age 65 and older, and 20% of those ages 85 and older, are in nursing homes.² Even among older adults in private homes, physical or cognitive impairments may limit their ability to respond to surveys; thus, the estimates of prevalence rates included in this report are likely to under-represent the true occurrence of these conditions in the entire older adult population in the state.

Prevalence estimates and 95% confidence intervals (CIs) were determined with SUDAAN version 7.5, which accounts for the complex sample design of the BRFSS. The CI is a range of values around the estimated value within which the “true” value probably lies. If the survey were repeated many times, the “true” value would be expected to lie within this range 95 times out of 100 (for a 95% CI, as reported here). Larger confidence intervals, and less precise estimates, result from smaller sample sizes. Sample sizes for older adults were 1,149 in 2000 and 2,498 in 2001, while sample sizes for each of the seven age groups ranged from 285 to 927 in 2000, and from 537 to 1,732 in 2001. Respondents with missing values were excluded from analysis of that variable unless otherwise noted. With the exception of overweight and income measures, this usually had little or no effect on the results.

III. Results

A. Demographics

Demographics of older adults are shown in Table 1, along with the demographics of all adults in Connecticut, as estimated from the weighted BRFSS data.

Table 1
Demographics of Connecticut Adults- 2001 BRFSS

Group	Older adults (55+)		All adults (18+)	
	Percent	Number	Percent	Number
Sex				
Male	43.5%	350,000	47.8%	1,248,400
Female	56.5%	455,000	52.2%	1,365,600
Race/ethnicity				
White (non-Hispanic)	89.4%	719,000	80.0%	2,092,400
Black (non-Hispanic)	3.6%	29,200	6.0%	155,900
Hispanic	3.7%	30,000	8.4%	218,500
Other (non-Hispanic)	3.3%	26,400	5.6%	147,200
Employment status				
Employed	34.5%	276,900	66.1%	1,720,800
Retired	55.0%	440,900	17.6%	457,300
Homemaker	4.6%	36,900	5.7%	147,800
Other	5.9%	47,200	10.7%	279,500
Household income				
<\$25,000	27.1%	169,600	19.3%	414,900
\$25-\$49,999	33.0%	206,600	28.5%	612,200
\$50-\$74,999	15.9%	99,400	20.0%	428,300
\$75,000+	24.1%	150,700	32.2%	691,200
Marital Status				
Married	61.9%	498,400	58.1%	1,519,300
Divorced	10.2%	82,000	9.0%	235,500
Widowed	21.3%	171,300	7.3%	189,900
Never married	4.8%	38,800	20.2%	526,600
Other	1.8%	14,100	5.5%	142,600
No. of adults in household				
1	27.8%	224,000	19.3%	504,400
2	55.9%	449,900	55.6%	1,453,500
3	12.5%	100,700	15.5%	405,500
4 or more	3.7%	30,000	9.6%	250,400
Demographics are from the weighted data, which adjust results to match the overall population of adults in Connecticut by age and sex. Note that the total adult population includes persons in nursing homes and other institutions who are not surveyed by the BRFSS. Results for 2000 were similar (within 1 percentage point) except there were slightly more Hispanics surveyed in that year (10.3% overall).				

B. Health Conditions

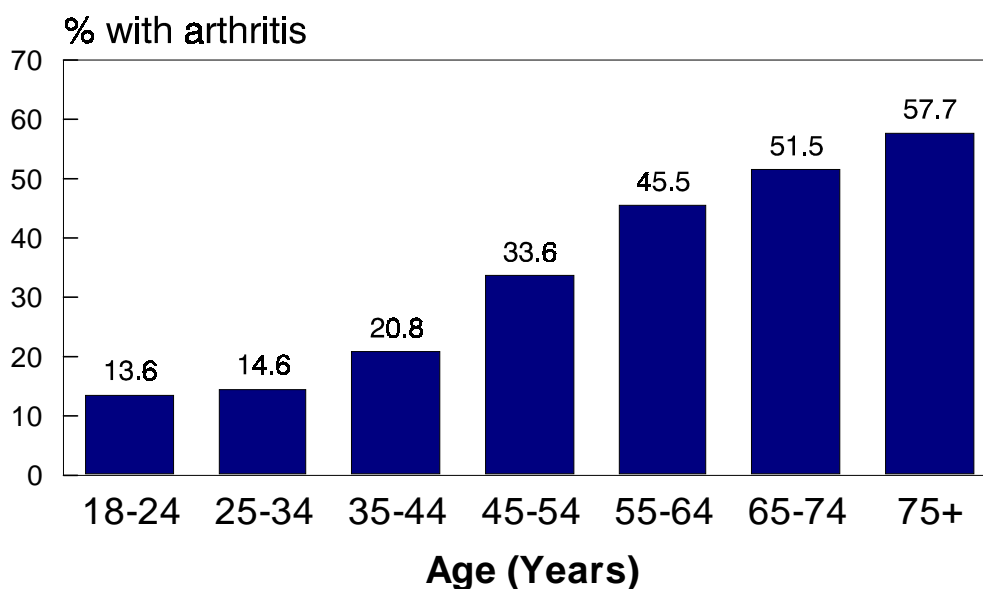
1. Arthritis

Arthritis is the leading cause of disability in the United States and one of the most prevalent conditions, affecting nearly 43 million Americans. This number is expected to increase to 60 million by 2020 with the maturation of the baby boomers. The term arthritis includes more than 100 diseases and conditions that affect the joints and surrounding tissue, including osteoarthritis, rheumatoid arthritis, fibromyalgia, lupus, gout, Lyme Disease arthritis, and bursitis. Arthritis has been estimated to cost the U.S. nearly \$65 billion each year.⁴

Measuring the prevalence of arthritis is difficult because the disease can exist in so many forms and there is no generally accepted standard measure. The definition of arthritis used in this report includes persons who reported pain, aching, stiffness or swelling around a joint during the past 12 months that was present on most days for at least one month, and/or those who reported they had been told by a doctor that they had arthritis (Figure 1). Other definitions, especially those based on different questions, will produce different estimates of the prevalence of the condition.

Figure 1.

Arthritis Prevalence by Age Connecticut Adults - 2001



Source: BRFSS self-reports.

Prevalence among older adults: 50.6%

Prevalence among 18-54 year olds: 21.5%

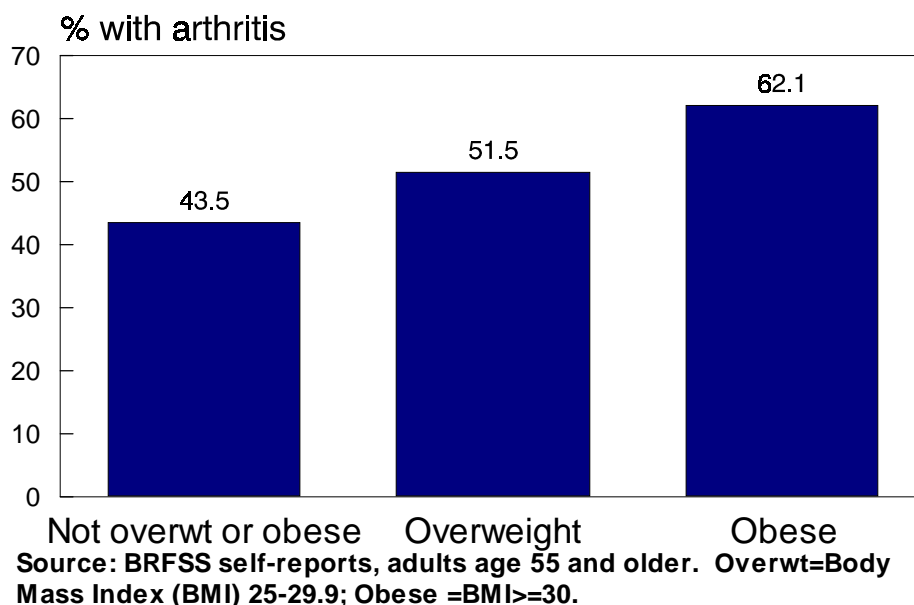
Prevalence among all adults: 30.6%,

Among older adults, 86.0% of those meeting the case definition had been told they had arthritis, while only 48.9% of younger adults meeting the criteria had been told by a doctor that they had arthritis. Older women were significantly more likely than older men to report arthritis, and lower income older adults were more likely than those with higher incomes to report arthritis (Table 3A). The impact of arthritis on the health of older adults was clear; older adults with arthritis were 2-3 times more likely than those without arthritis to report poor health status or activity limitations (Table 4 and Page 24). Nearly one third (32.6%) of older adults with arthritis reported that their activities were limited due to health problems and over one-fourth (27.0%) reported that their current health status was either fair or poor. Among older adults without arthritis, only 11.9% reported any limitation of activities, and 13.7% reported fair or poor health.

Obesity has been identified as a modifiable risk factor for arthritis.⁵ In Connecticut, obese and overweight older adults were significantly more likely than those not overweight or obese to report arthritis (Figure 2). Primary prevention strategies for arthritis include weight control, prevention or reduction of sports and occupational injuries, and taking precautions to minimize exposure to Lyme Disease ticks. Early diagnosis of arthritis is important, yet only 73.2% of older adults with joint problems had seen a physician for these symptoms. Medical treatment can alleviate symptoms and reduce pain and suffering, but only 36.6% of older adults who had been told by a doctor that they had arthritis were currently being treated for it. Although exercise is recommended to ease the pain and symptoms of arthritis, 31.9% of older adults with arthritis were not engaging in any leisure time physical activity.

Figure 2.

Arthritis by Weight Category Connecticut Older Adults - 2001

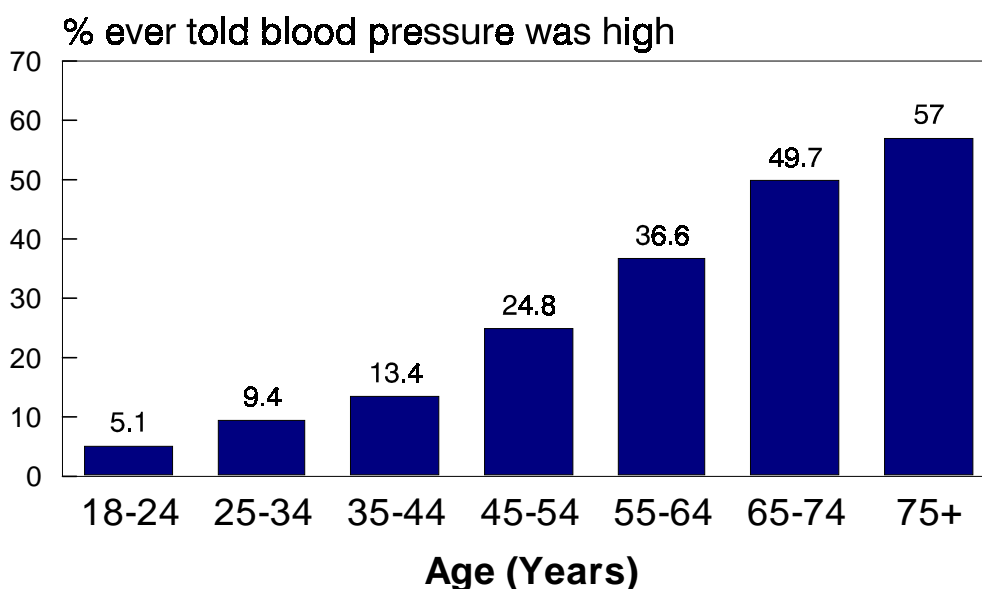


2. High Blood Pressure

High blood pressure or hypertension (blood pressure $\geq 140/90$ mm Hg) is a risk factor for heart disease, a major risk factor for stroke, and a cause of death itself. In 1998, 164 Connecticut resident deaths were caused by hypertension, with or without mention of renal disease (ICD-9 codes 401, 403).⁶ Healthcare expenses attributed to hypertension were estimated to be \$108.8 billion in 1998.⁷ Hypertension usually causes no symptoms and can only be detected by a simple blood pressure measurement. In 1999, over 95% of all Connecticut adults, and 98.5% of older adults, reported they had had their blood pressure measured within the previous 2 years.⁸ This finding was consistent for several years and was not measured on the BRFSS in 2001. BRFSS respondents in 2001 who said they had ever been told they had high blood pressure were considered to have high blood pressure, although normally a diagnosis of high blood pressure is only made after two or more elevated readings over time (Figure 3).

Figure 3.

High Blood Pressure by Age Connecticut Adults - 2001



Source: BRFSS self-reports.

Prevalence among older adults: 46.2%

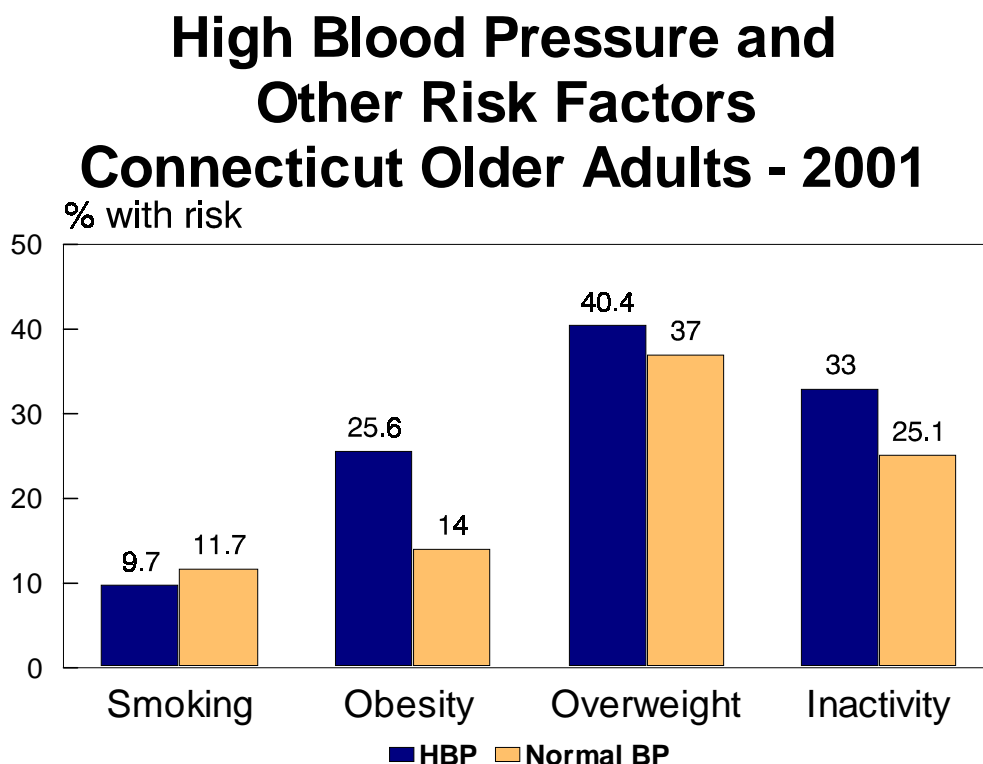
Prevalence among 18-54 year olds: 14.1%

Prevalence among all adults: 24.1%

Among older adults, the prevalence of high blood pressure was similar for men and women and all race and ethnic groups, but increased with age and decreased with household income (Table 3A). The majority of older adults with hypertension (89.5%) reported they were currently taking medicine for high blood pressure; this represented 41.3% of all older adults in the state, or 330,000 persons. Older adults with high blood pressure were twice as likely as older adults with normal blood pressure to report fair or poor health (27.7% vs. 13.9%; Table 4 and Page 24). Over one fourth (26.3%) of older adults with high blood pressure reported their activities were limited due to health problems, compared with 19.0% of those who did not have hypertension.

Key recommendations for persons of any age with hypertension include smoking cessation, weight loss, and exercise. Among older adults in Connecticut with high blood pressure, 9.7% reported current smoking, 25.6% were obese (Body Mass Index [BMI] ≥ 30), an additional 40.4% were overweight (BMI of 25-29.9), and 33.0% did not engage in any leisure time physical activity (Figure 4). Only obesity and overweight were significantly higher for those with high blood pressure than for older adults with normal blood pressure. Heart disease, diabetes, and high cholesterol were also reported more frequently among older adults with high blood pressure (data not shown).

Figure 4.

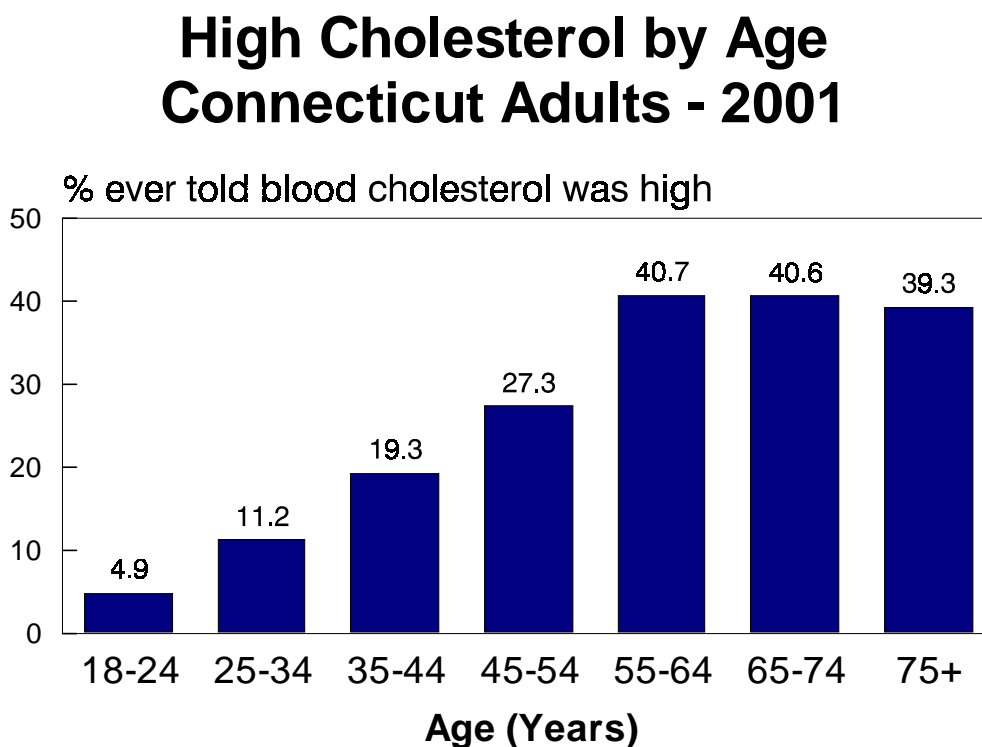


Source: BRFSS self-reports, adults age 55 and older.

3. High Blood Cholesterol

Cholesterol is a waxy substance produced in the liver or obtained from outside sources through consumption of animal products such as meat, fish, or cheese. Cholesterol levels fall into three groups: high for readings of 240 mg/dL and over, borderline high for 200-239 mg/dL, and desirable for readings less than 200 mg/dL. High blood cholesterol levels increase the risk of heart attack and stroke. The BRFSS questions did not address the actual reading, but only asked if respondents had been told their blood cholesterol was high. About 95% of older adults had ever had their cholesterol tested, and nearly 93% had it tested within the past 5 years. High cholesterol is reported as a percentage of all adults, not just those who have been tested (Figure 5).

Figure 5.



Source: BRFSS self-reports for all adults, not just those tested.

Prevalence among older adults: 41.0%

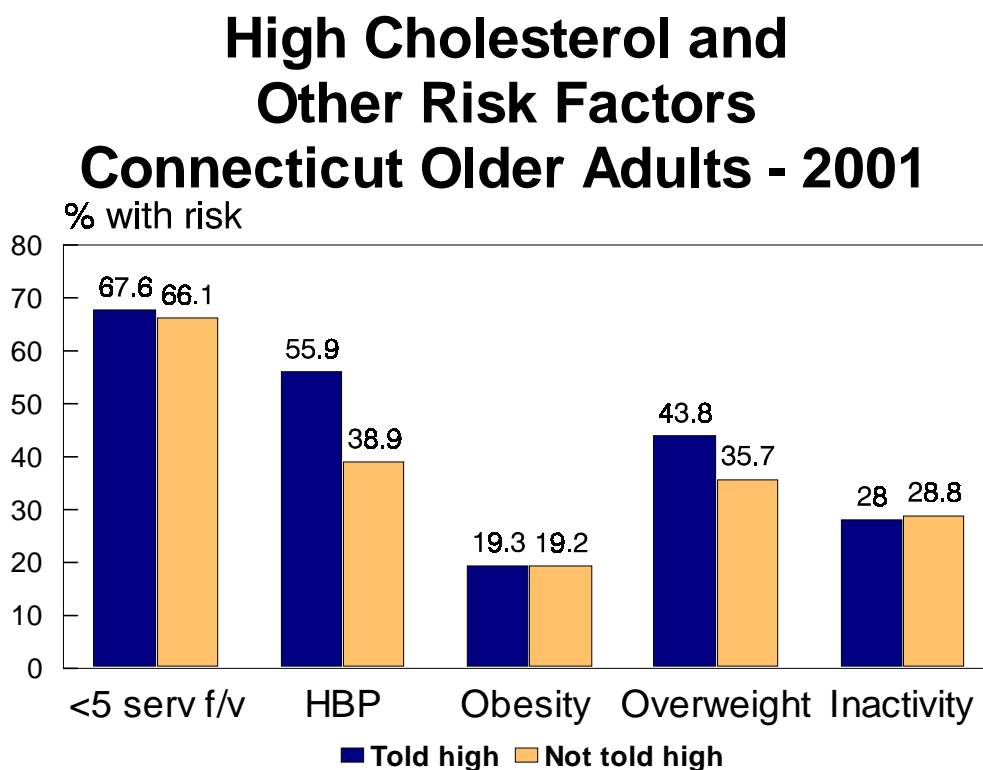
Prevalence among 18-54 year olds: 17.3 %

Prevalence among all adults: 24.7%

Among older adults, the prevalence of high cholesterol was similar for all three age groups, for men and women, for all racial and ethnic groups, and for all income groups. Older adults with high cholesterol were, however, more likely to report fair or poor health or limitation of activities (Table 4 and Page 24). Over one-fourth (25.6%) of older adults who had been told they had high cholesterol reported activity limitation and 23.1% reported fair or poor health. These figures compare with 19.7% of older adults without high cholesterol who reported activity limitation and 18.1% who reported fair or poor health.

Cholesterol-lowering strategies include dietary changes (e.g. eating five or more servings of fruits and vegetables a day), exercise, maintaining a healthy weight, and drug therapy. Only about one-third of older adults ate five or more servings of fruits and vegetables, 72% engaged in leisure time physical activity, and only 36.9% were not overweight or obese. The percent of older adults with and without high cholesterol and each of these risk factors is shown in Figure 6. Only overweight (but not obesity) and high blood pressure were significantly associated with high cholesterol among older adults when other factors were taken into consideration. Heart disease and diabetes were also significantly more common among older adults with high cholesterol. No information was available from the BRFSS on the use of cholesterol-lowering medications.

Figure 6.



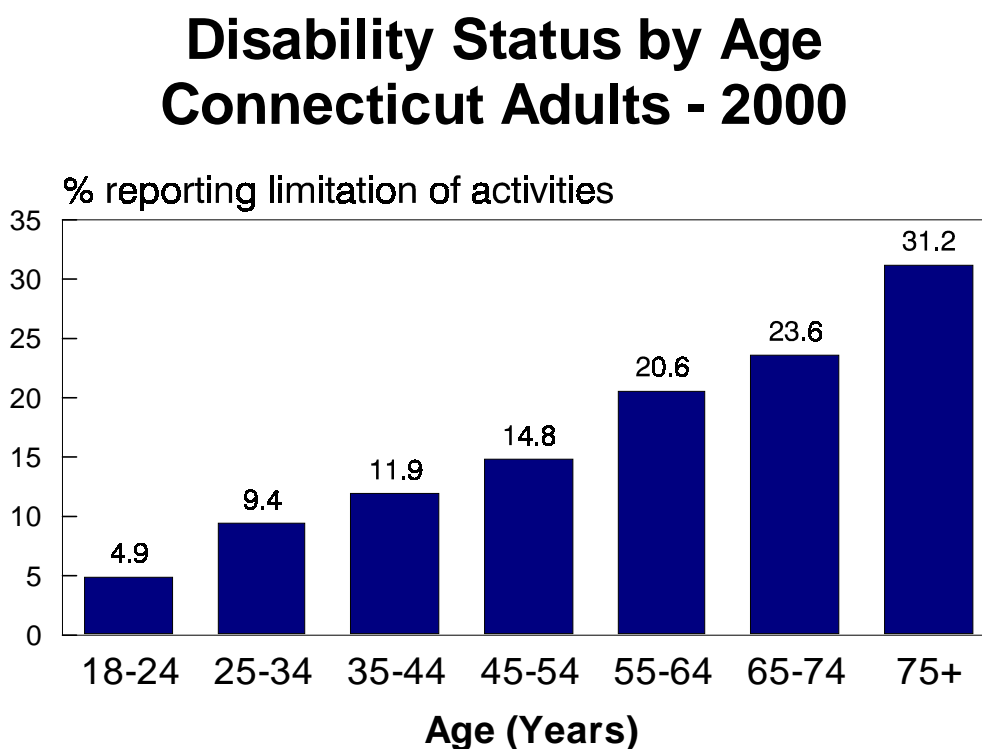
Source: BRFSS self-reports, adults age 55 and older. Obesity = BMI ≥ 30; Overweight = BMI 25-29.9.

4. Disability

An estimated 20% of the U.S. population currently lives with disabilities, and the number is increasing.⁹ Disabilities can limit activities in a number of ways that, in turn, can affect many aspects of health and well being. Disabilities often coexist with other health conditions. The annual medical costs associated with disability are estimated to be over \$300 billion, which includes direct medical costs and lost productivity.⁹

Disability was defined on the BRFSS as being limited in any way, in any activities, because of an impairment or health problem. The single question used in this determination may not include persons with certain disabilities such as cognitive impairment or hearing loss, and of course, also excludes persons in nursing homes. Thus, the figures reported here likely underestimate the number of disabled adults in the state. According to the BRFSS data, 15.0% of all adults in Connecticut are disabled, which is considerably lower than the 20% reported for all persons in the U.S. with disabilities. Data are presented for 2000 (Figure 7), when the BRFSS included additional questions about the impact of the disability. Data for 2001 were similar for disability by age and by other factors.

Figure 7.



Source: BRFSS self-reports.

Prevalence among older adults: 24.2%

Prevalence among 18-54 year olds: 10.8 %

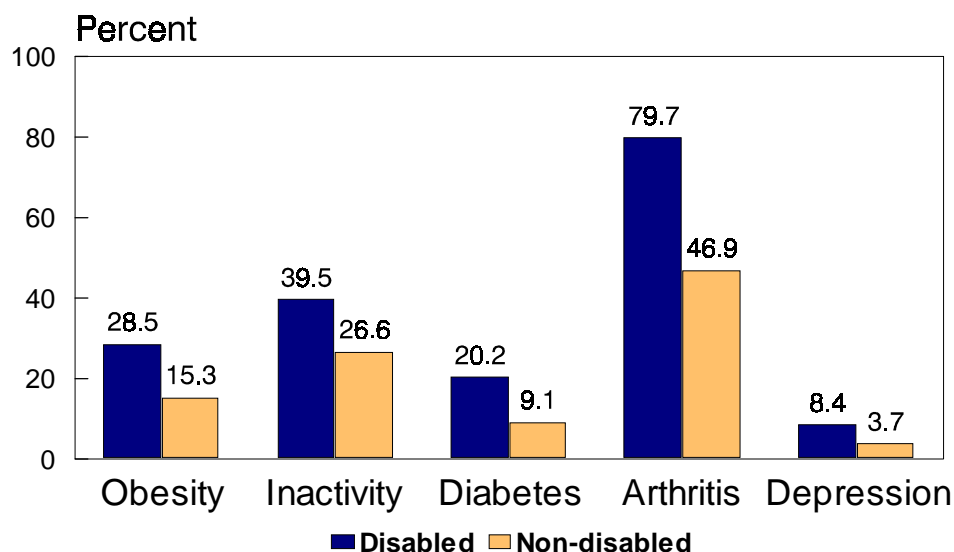
Prevalence among all adults: 15.0%

Among older adults, men and women were equally likely to be disabled, and rates were similar for all racial and ethnic groups. Disability rates increased with age among older adults, to 31.2% for ages 75 and older, and decreased with household income from 33.6% for incomes less than \$25,000, to 15.3% for incomes above \$75,000 (Table 3A). Half (49.7%) of all older disabled adults reported their health was fair or poor, compared to 14.1% of non-disabled older adults (Table 4 and Page 24). Because 100% of persons reporting a disability had activity limitation, other measures were used to describe the apparent impact of disability. One fourth (24.7%) of disabled older adults required help with routine needs, such as everyday household chores and shopping, and 9.1% needed help with personal care such as eating, bathing, or dressing. Only respondents who reported activity limitations were asked these questions.

The most frequently reported health problem that limited activities was arthritis, reported by 21.7% of older adults with activity limitation. Other mobility problems, including back and neck problems, fractures or joint injury, or walking problems, added 21.9%, for a total of 43.6% of disability among older adults related to mobility issues. Heart problems (10.1%), breathing problems (6.4%), and vision problems (5.5%) were the only other single problems that represented 5% or more of reported problems among older adults with activity limitation. Various factors associated with disability among older adults are shown in Figure 8. These factors may or may not contribute causally to disability, but are noted because the information may be helpful in addressing the health care needs of older disabled adults.

Figure 8.

Factors Associated with Disability Connecticut Older Adults - 2000



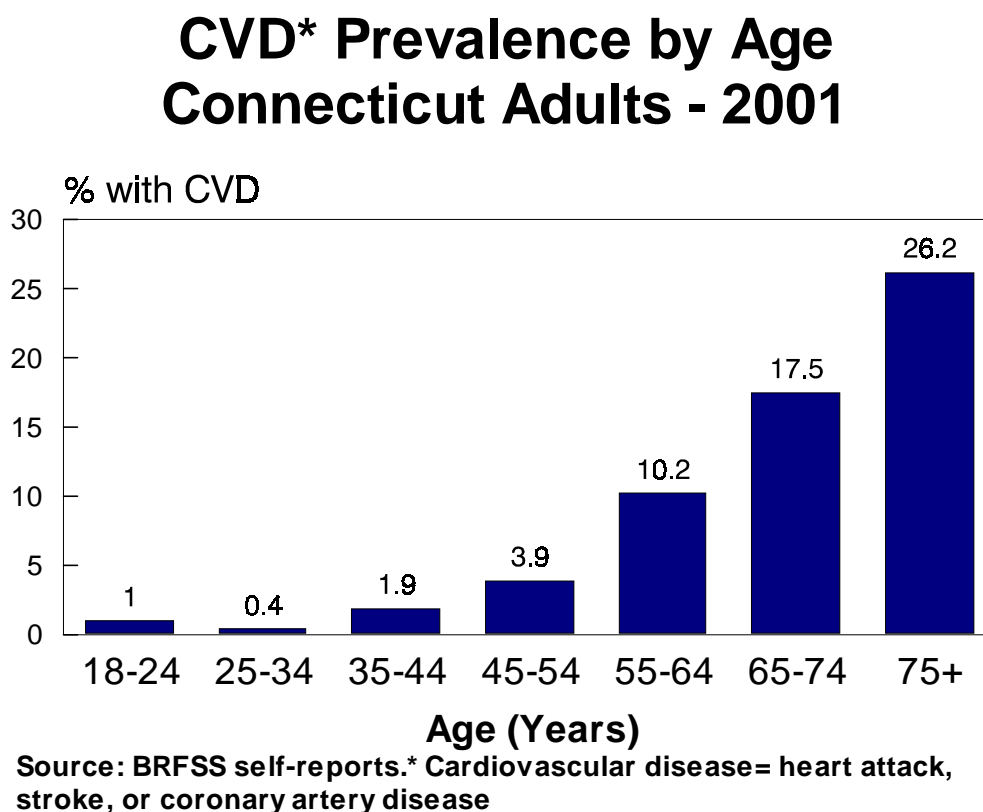
Source: BRFSS self-reports; adults age 55+. Depression >13 days in past 30.

5. Cardiovascular Disease

Cardiovascular Disease (CVD), which includes heart disease and stroke, is responsible for over 40% of all deaths in Connecticut.¹⁰ Listed separately, heart disease is the leading cause of death in the state, and stroke is third. The estimated economic cost of CVD in the U.S. was \$351.8 billion in 2003, or about \$1,150 per person.⁷ Connecticut's share of these direct and indirect costs was estimated to be nearly \$4 billion, assuming similar disease rates and charges. CVD is also the leading cause of hospitalizations in the state, representing a major portion of the cost of CVD.¹⁰

While CVD includes a wide range of diseases affecting the circulatory system, the BRFSS only included self-reported heart attacks, angina or coronary heart disease, and stroke. Because the BRFSS excludes residents of nursing homes, estimates of CVD morbidity reported here are probably low. As shown in Figure 9 below, cardiovascular disease is rare among adults younger than age 45.

Figure 9.



Prevalence among older adults: 16.8%

Prevalence among 18-54 year olds: 1.9 %

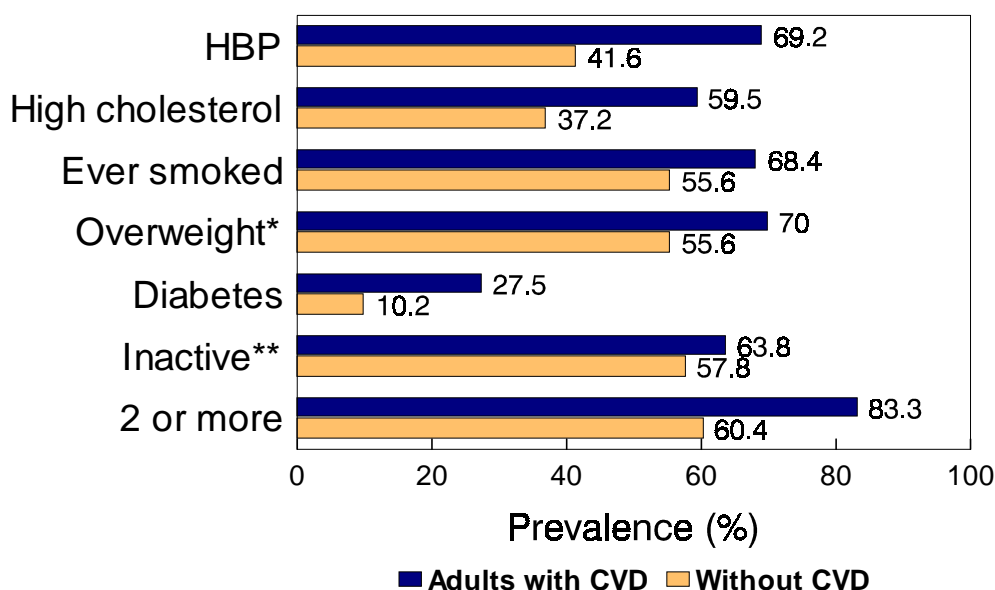
Prevalence among all adults: 6.6%

Among older adults, men were much more likely than women to report CVD (Table 3B), and rates increased dramatically with age from 10.2% for 55-64 year olds to 26.2% for ages 75 and older. Rates were similar for all race/ethnicity groups but were significantly associated with household income (Table 3B). Older adults with CVD were more likely than those without CVD to report fair or poor health or a limitation of activity (Table 4 and Page 24). Nearly 4 in 10 older adults with CVD reported fair or poor health (39.9%) and limited activity due to health problem (38.9%). These rates were double the rates for older adults without CVD.

Primary prevention of CVD involves reduction or control of the six major modifiable risk factors for the disease: high blood pressure, high cholesterol, smoking, overweight, diabetes, and physical inactivity. The definition of physical inactivity used here includes adults who exercise less than 30 minutes at a time on 5 or more days a week. Compared with adults without CVD, the prevalence of each of these risk factors was higher among older adults with CVD (Figure 10). Early detection emphasizes screening for high blood pressure and high cholesterol and assessing behavioral risks. Mass screening for heart disease is not recommended, but high-risk individuals should consider an electrocardiogram. Major advances in the tertiary treatment of CVD through such techniques as coronary bypass surgery have contributed to a significant reduction of CVD mortality.

Figure 10.

Cardiovascular Disease Risk Factors Connecticut Older Adults - 2001



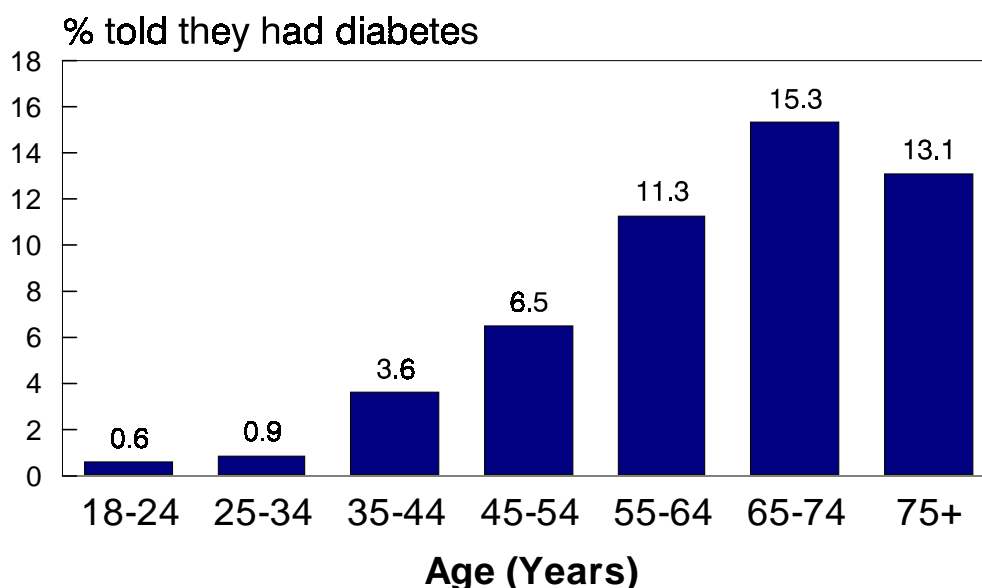
Source: BRFSS self-reports; Older adults = age 55 +; * Body mass index > 25; ** does not meet 1996 recommendations for exercise

6. Diabetes

Diabetes occurs when the body is unable to produce enough insulin, or is unable to use it, to convert glucose into energy. When that happens, glucose accumulates in the blood, which provides a diagnostic test for the disease. Complications of diabetes include blindness, renal failure, and circulatory problems that can lead to amputations. Diabetes is the seventh leading cause of death in Connecticut, accounting for 659 deaths in 1998. The disease contributes to many more deaths each year, particularly those caused by heart disease, although it may not always appear on the death certificate. The cost of diabetes in the U.S. was estimated to be \$132 million in 2002, which includes direct medical costs plus indirect costs due to lost productivity, disability, and premature mortality.¹¹ The American Diabetes Association classifies diabetes as type 1 and type 2, with the latter by far the more prevalent form. Type 1 has been referred to as insulin-dependent diabetes, although insulin may also be used to treat type 2 cases. Gestational diabetes is a separate type of diabetes that was not included in the definition used in this report. The self-reported results from the BRFSS (Figure 11) may underestimate the true prevalence of the disease, since it has been estimated that about one third of the people with diabetes don't know they have it.

Figure 11.

Diabetes Prevalence by Age Connecticut Adults - 2001



Source: BRFSS self-reports.

Prevalence among older adults: 13.1%

Prevalence among 18-54 year olds: 3.2 %

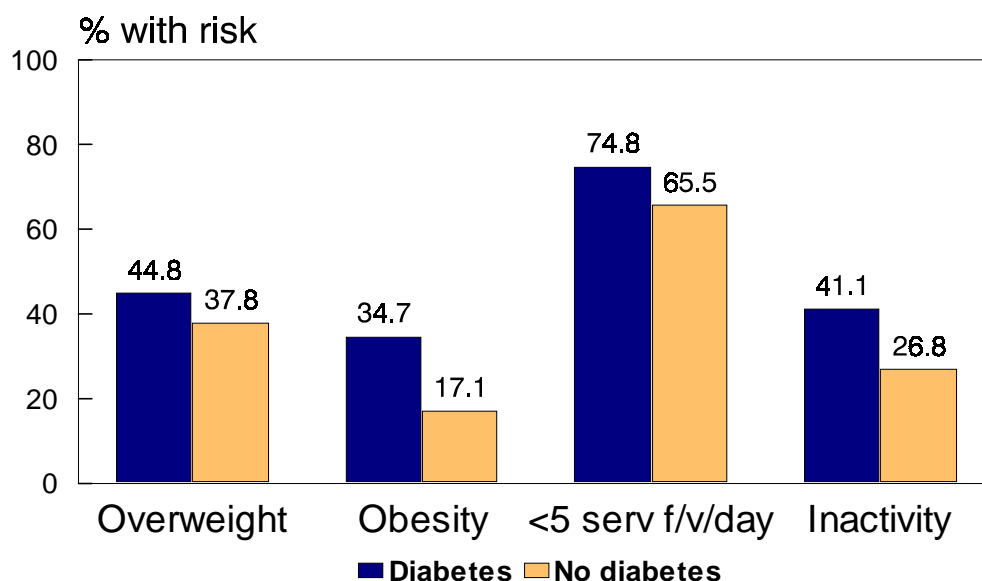
Prevalence among all adults: 6.3%

Among older adults, self-reported diabetes prevalence was significantly associated with race/ethnicity and household income (Table 3B). Older men were more likely than older women to report diabetes (14.9% vs. 11.7%) although this difference was technically not significant. Four in ten (41.4%) older adults with diabetes reported their health status was fair or poor, and 38.7% reported an activity limitation (Table 4 and Page 24). Among older adults who did not report diabetes, only 17.2% reported their health status as fair or poor and 19.9% reported an activity limitation.

Potentially modifiable risk factors for diabetes include obesity and lack of physical activity (Figure 12). Accordingly, primary prevention strategies include weight control, promotion of proper nutrition, and regular physical activity. Obese and overweight older adults, and also those with high blood pressure, were more likely to report diabetes. Non-modifiable risks include a family history of diabetes, being black or Hispanic, age greater than 40, and for women, having a history of gestational diabetes. Mass screening is not recommended, but fasting blood glucose tests of high-risk individuals may be beneficial. Because diabetes requires life-long care, effective treatment involves close monitoring by health care professionals, but also entails self-care on a daily basis. Among Connecticut older adults with diabetes, 42% reported they had taken a course in diabetes self-management.

Figure 12.

Diabetes and Risk Factors Connecticut Older Adults - 2001



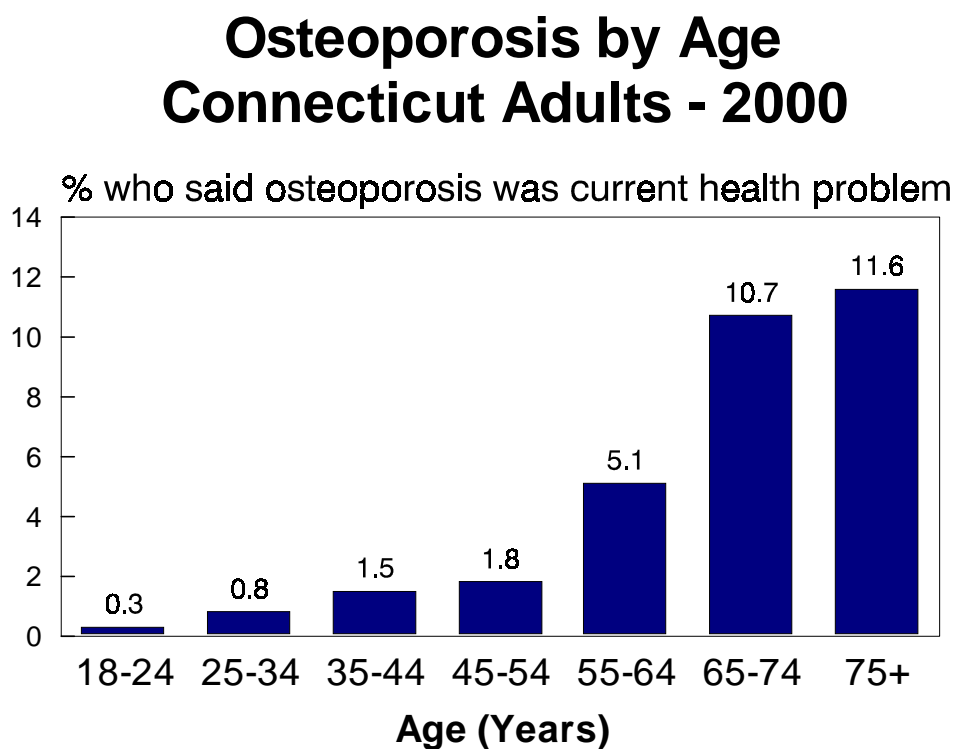
Source: BRFSS self-reports, adults age 55+; Overweight=BMI 25-29.9, obesity =BMI>=30.

7. Osteoporosis

Osteoporosis is a reduction in bone mass to the extent that the risk of fractures, especially in the hips, is greatly increased. An estimated 20 million Americans currently have osteoporosis, and there are 250,000 hip fractures in the U.S. each year, accounting for 19% of all broken bones.¹² Because people lose bone mass as they age, and menopause tends to accelerate bone loss, older women are at especially high risk for osteoporosis. Other risk factors include small frame, lack of exercise, especially weight bearing exercise, heavy drinking, chronic use of steroids, smoking, and low calcium intake. The disease is diagnosed by a bone density test, which is a non-invasive measure of bone mass.

The BRFSS measured osteoporosis indirectly by asking respondents how likely osteoporosis was to become a health problem for them, or if it already was a problem. Those who reported that it was currently a problem were considered to have osteoporosis. As with other conditions covered in this report, the prevalence increased with age, as shown in Figure 13.

Figure 13.



Source: BRFSS self-reports.

Prevalence among older adults: 8.8%

Prevalence among 18-54 year olds: 1.5 %

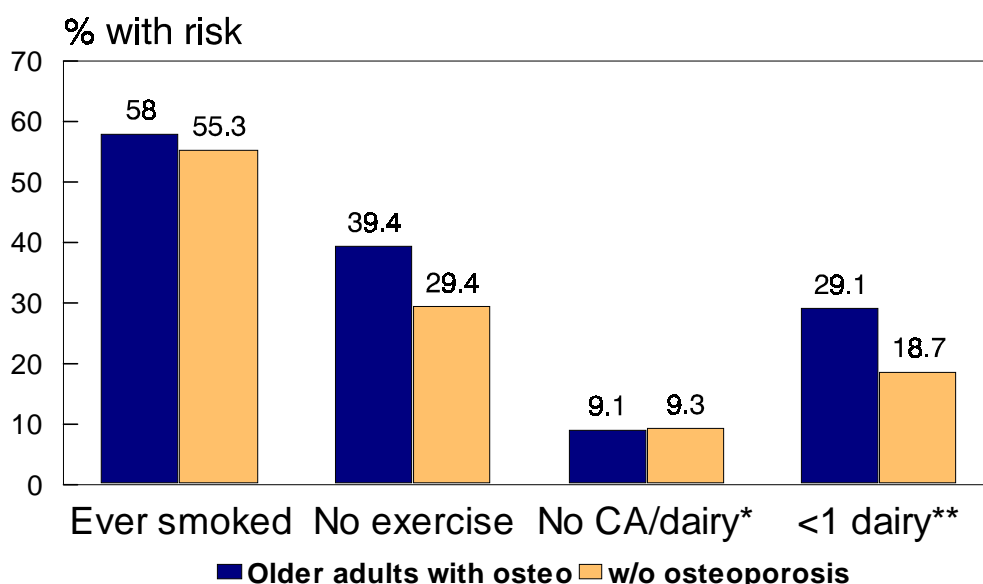
Prevalence among all adults: 3.8%

Osteoporosis was significantly more common among older women compared to older men (12.8% and 3.6% respectively), representing 56,000 older women and 12,000 older men with the condition. Among older adults, osteoporosis increased dramatically with age, and decreased with household income (Table 3B). Older blacks (1.4%) were considerably less likely to report osteoporosis than other racial or ethnic groups. Compared to those without osteoporosis, older adults with osteoporosis were much more likely to report fair or poor health or a limitation of activity (Table 4 and Page 24). About 4 in 10 older adults with osteoporosis reported fair or poor health (36.9%) and limited activity due to health problem (40.9%). Among older adults without osteoporosis, only 21.2% reported fair or poor health and 22.6% reported activity limitation.

Primary prevention of osteoporosis must begin at a young age to build peak bone mass. Adequate calcium intake, participation in weight-bearing exercise, and avoidance of tobacco are key. Among older adults, prevention of falls is important to help avoid fractures that might result from osteoporosis. Bone density screening and treatment of patients with low bone density with medications such as Fosamax or Evista may help, but will not restore bone mass to original levels. The prevalence of selected risk factors for osteoporosis among older adults with and without osteoporosis is shown below (Figure 14). About half of all older adults, and nearly three-fourths of those with osteoporosis, reported taking extra calcium (data not shown).

Figure 14.

Osteoporosis Risk Factors Connecticut Older Adults - 2000



Source: BRFSS self-reports; Older adults = 55+; * < 1 serving of dairy products/day and no extra calcium; ** < 1 serving dairy/day

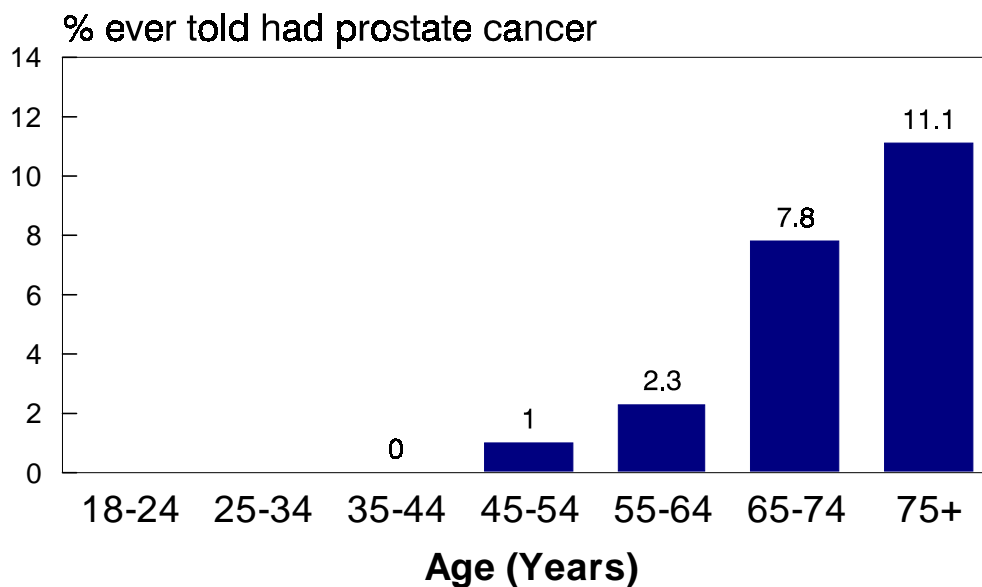
8. Prostate Cancer

Prostate cancer is the second leading cause of cancer deaths in men, responsible for 408 deaths in Connecticut in 1998.⁶ Prostate cancer is the most commonly diagnosed cancer among men, and over a lifetime will affect an estimated one in every five men in the U.S.¹³ An increase in incidence rates between 1986 and 1992 is believed to be related to more widespread use of the prostate-specific antigen (PSA) test. Incidence rates increase dramatically with age (Figure 15). Incidence and mortality rates are highest among black men and lowest in Native Americans. Having a relative with prostate cancer increases risk, and eating a high fat diet may be a risk factor. Note that only men 40 years of age and older were surveyed.

Treatment varies by the age of the patient and the stage of cancer, and may include surgery, radiation, and/or hormonal therapy. Overall five-year survival rates for prostate cancer have been improving and are currently greater than 90%. If the disease has spread (distant stage) five- year survival rates are only about 32%. Survival rates for Black men have not improved as rapidly as for white men, so that the difference between the two groups has increased.¹³ The American Cancer Society recommends that all men age 50 and older with a life expectancy of at least 10 years receive an annual PSA test and digital rectal exam.

Figure 15.

Prostate Cancer by Age Connecticut Men - 2001



Source: BRFSS self-reports of men age 40 and older

Prevalence among older men: 6.0%

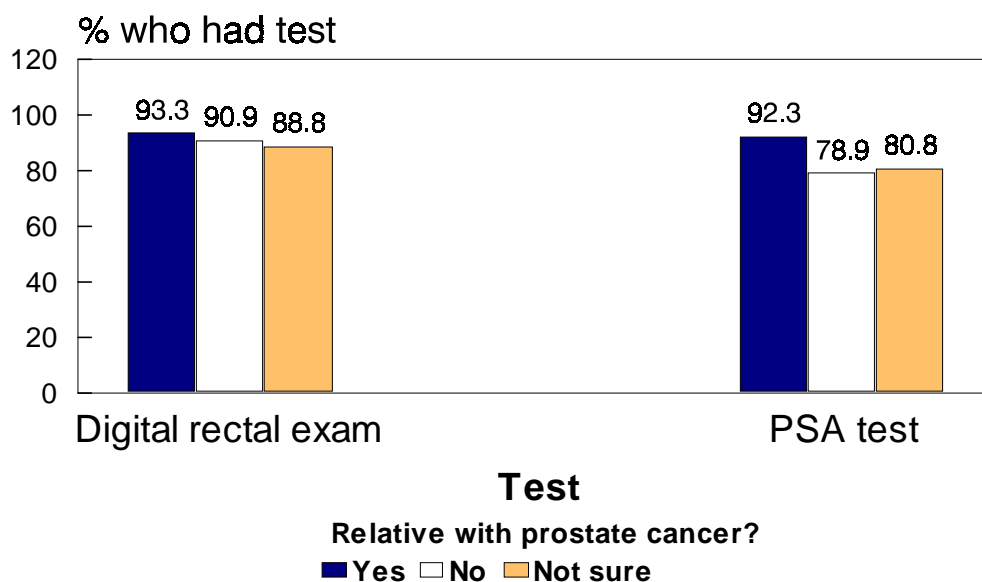
Prevalence among all men asked (age 40 and older): 3.2%

Among older men, prostate cancer increased dramatically with age (Figure 15). There were not enough older minority men surveyed to confirm reported higher rates among black men, although rates for black men appeared to be higher (9.0% vs. 6.0% for white men; Table 3B). Prostate cancer rates were higher among men who indicated that their father, brother, son, or grandfather had prostate cancer (16% for those with a relative with prostate cancer, 10% for those that didn't know, and 5% for those without a relative with prostate cancer). Compared to men without prostate cancer, older men with prostate cancer were more likely to report fair or poor health (36.3% vs. 17.7%) but not a limitation of activity (Table 4 and Page 24).

Because there are no known modifiable risk factors for prostate cancer, secondary and tertiary prevention are key. This is especially important for those with a family history of the disease. Older men should talk with their health care providers about receiving a digital rectal exam and PSA test. Screening rates in Connecticut for these two tests are high, but could be improved (Figure 16). Almost all men with prostate cancer reported they had a PSA test and a digital rectal exam (98% for each test).

Figure 16.

Prostate Cancer Screening Connecticut Older Men - 2001



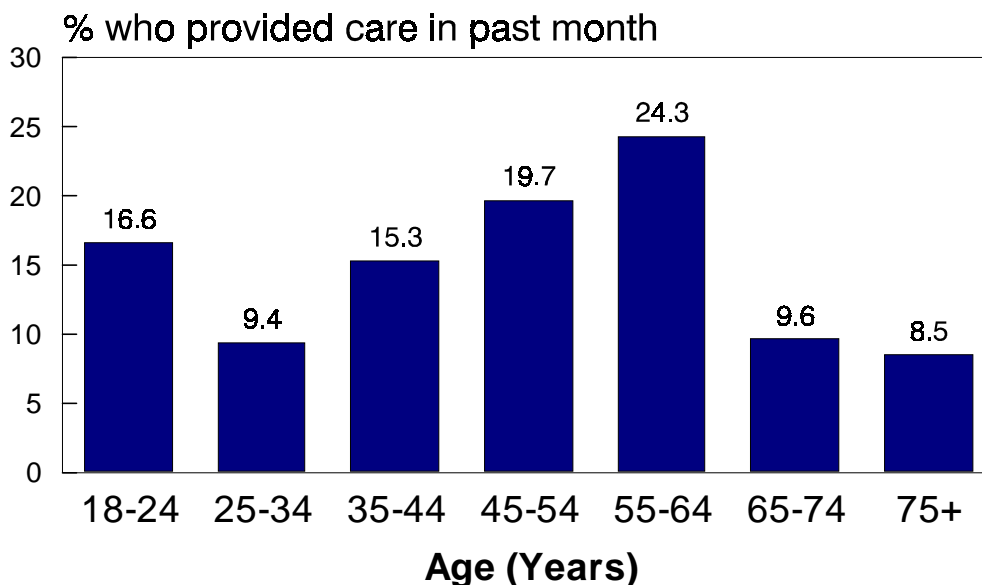
Source: BRFSS self-reports of men age 55 and older

C. Caregiver Issues

In 2000, respondents were asked if they provided regular care or assistance to a family member or friend who was 60 years of age or older. Among all respondents, 15.2% said they provided such care in the past month. Older adults were no more or less likely than other adults to report care-giving, nor was there an association with race/ethnicity. Women were more likely than men to provide such care (16.7% vs. 13.6%). The estimated total number of all adults providing care to persons age 60 and older was 357,800, including 117,400 older adults (age 55+). Even if there is duplication in adults providing care to the same older person, this represents a huge burden on society. Many caregivers are working-age adults who may have additional family responsibilities (Figure 17).

Figure 17.

Provide Care for 60+ Year Old Connecticut Adults - 2000



Source: BRFSS self-reports.

IV. Summary and Conclusions

Summary statistics for the eight conditions among older adults in Connecticut are shown in Table 1.

Table 1.
Summary of Health Conditions among Older Adults (age 55+)
Connecticut BRFSS, 2000 and 2001

	Prevalence	Estimated No.	Average age (all adults)
Arthritis	50.6%	407,000	55.2
High Blood Pressure	46.2%	370,000	58.5
High Cholesterol	41.0%	322,000	55.1
Disability	24.2%	184,000	54.2
Cardiovascular Disease	16.8%	135,000	66.0
Diabetes	13.1%	105,000	60.1
Osteoporosis	8.8%	68,000	62.2
Prostate Cancer	6.0%	20,000	70.4*

* Only asked of men age 40 and older

More than eight in ten older adults (83.5%) reported one or more of the following conditions: arthritis, high blood pressure, high cholesterol, diabetes, cardiovascular disease and disability. These six conditions (which exclude osteoporosis and prostate cancer) were chosen for this analysis because they were all measured in 2001 and are conditions likely to require continuing health care services, long term medication, and/or ongoing monitoring. Over half of all older adults (57.1%) reported two or more of these conditions, and 29.4% reported three or more (Table 2). These results were not associated with race, ethnicity, or sex.

Table 2.
Number of Health Conditions* Reported by Older Adults
Connecticut BRFSS 2001

No. of Conditions	Estimated Number of Persons		
	Age 55-64	Age 65+	All Older Adults
None	65,500	67,500	133,000
One or more	266,400	405,100	671,500
Two or more	159,000	300,000	459,000
Three or more	73,000	163,700	236,700

*Arthritis, high blood pressure, high cholesterol, disability, diabetes, cardiovascular disease.

Several measures of physical and mental health status were used to compare the apparent impact of the eight conditions on health in general. General health status was ascertained from a single question “Would you say that in general your health is excellent, very good, good, fair or poor?” Activity limitation was the same measure used to determine disability status. Respondents were also asked how many days during the past 30 days their physical health was not good and their mental health was not good. Those that reported one or more days of poor physical or mental health were also asked how many days poor physical or mental health kept them from doing their usual activities. Those who were not asked were considered to have zero days of limited activity (Table 4 and Page 25).

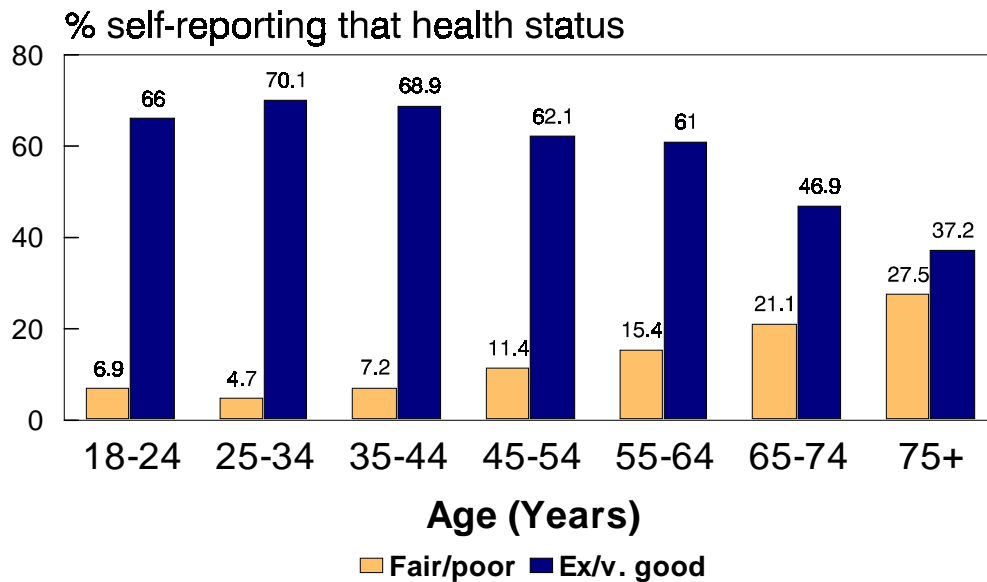
To put the results for older adults in better perspective, data are first shown by age group for all adults. The physical health of adults, as measured by self-reported health status and mean number of days of poor physical health in the past 30 days, decreased with age, as shown in Figures 18 and 19. Older adults were less likely to report excellent or very good health and more likely to report fair or poor health. Older adults did not report more days of activity limitation or poor mental health (Figure 19). Compared to younger adults, older adults actually reported fewer days of poor mental health in the past 30 days.

Graphs on pages 24-25 and Table 4 compare the apparent impact of the eight conditions on health status, activity limitation, and mean number of days of poor physical health, mental health, and activity limitation. Older adults with each condition are compared with older adults without the condition. Results by age (Figures 18-19), and the average age of persons with each condition, will affect these results. The presence of other health problems that were not addressed on the BRFSS will also affect results. All graphs except those for disability are shown on the same scale for ease of comparison. Shading of rows in Table 4 is included to indicate which associations were statistically significant. For general health status and activity limitation, a Chi-Square test was used. For mean number of days of poor health, statistical significance is indicated by confidence intervals that do not overlap. Arthritis, high blood pressure, disability, cardiovascular disease, and diabetes were associated with poor health as measured by self-reported health status and number of days of poor physical health and activity limitation. Arthritis and disability were also associated with more days of reported poor mental health.

As with all survey data, there are several limitations of these results that should be taken into consideration. First of all, the data are self-reported and in most cases the validity of the measure on the BRFSS has not been measured. As noted earlier, households without telephones and persons in institutions such as nursing homes were not included. Non-response error is another limitation that is introduced when potential respondents refuse to participate, block their phone calls, or are unable to be reached during the time period of the survey. Response rates for the BRFSS have declined in the past few years and are currently less than 50% in Connecticut. Potential error (or bias) results if the adults not surveyed differ appreciably from those that do participate. However, the BRFSS data have been shown to be comparable to other surveys with higher response rates.¹⁴

Figure 18.

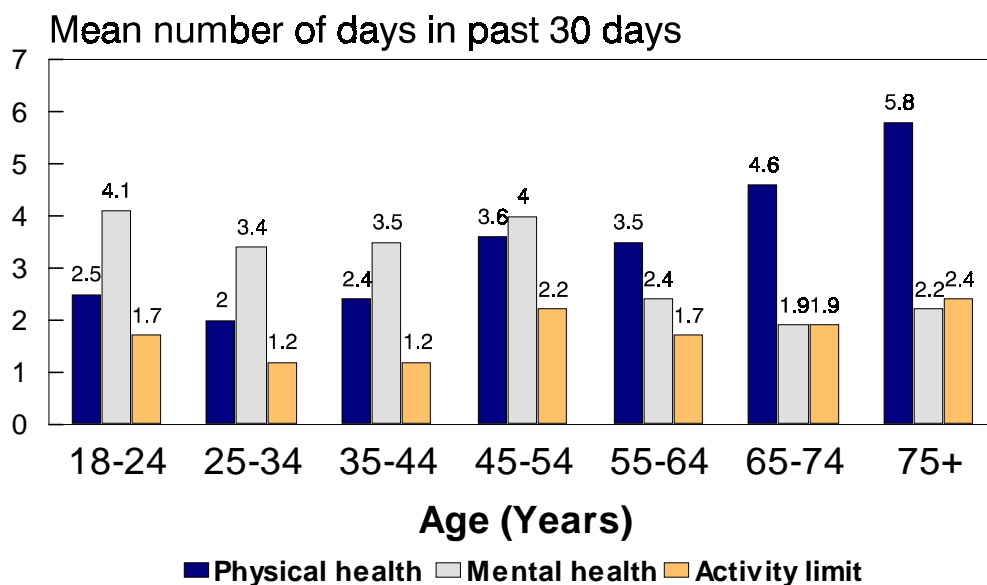
Health Status by Age Connecticut Adults - 2001



Source: BRFSS self-reports.

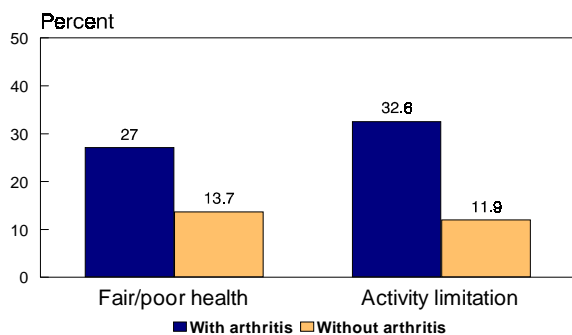
Figure 19.

Poor Health Days by Age Connecticut Adults - 2001

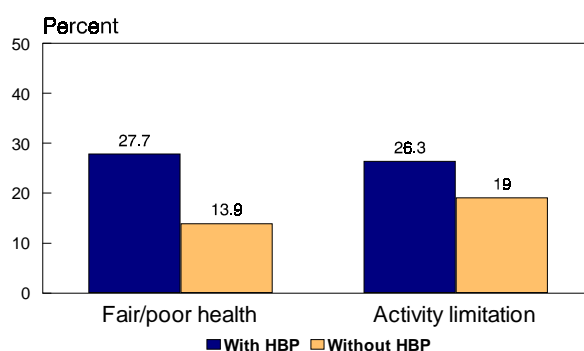


Source: BRFSS self-reports.

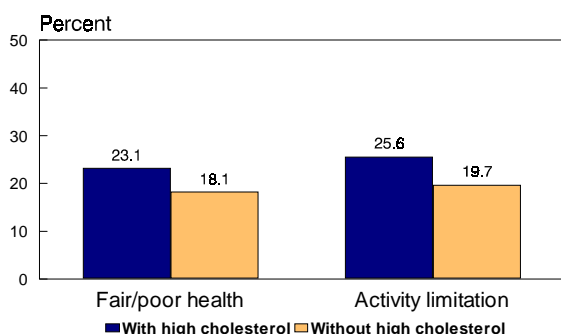
Arthritis Impact Connecticut Older Adults - 2001



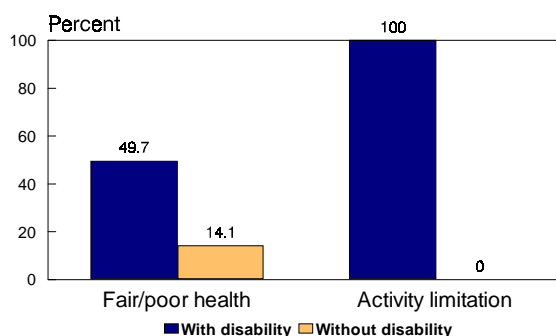
High Blood Pressure (HBP) Impact Connecticut Older Adults - 2001



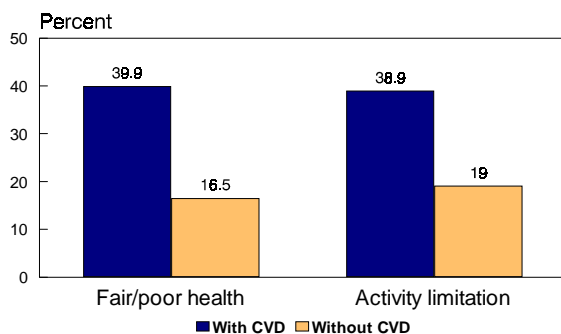
High Cholesterol Impact Connecticut Older Adults - 2001



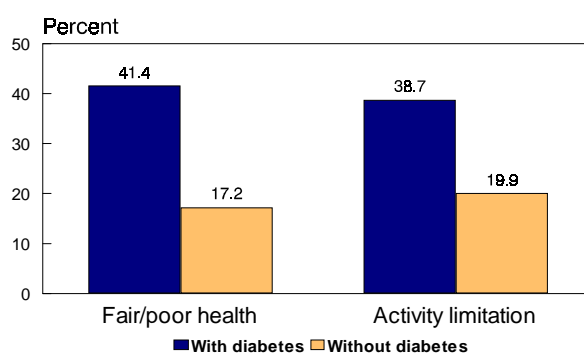
Disability Impact Connecticut Older Adults - 2000



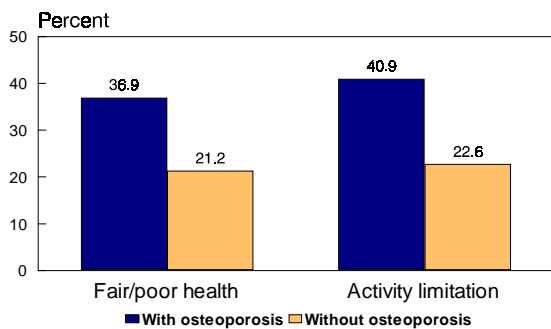
Cardiovascular Disease (CVD) Impact Connecticut Older Adults - 2001



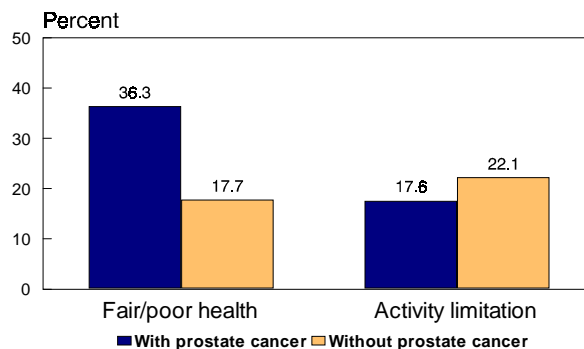
Diabetes Impact Connecticut Older Adults - 2001



Osteoporosis Impact Connecticut Older Adults - 2000

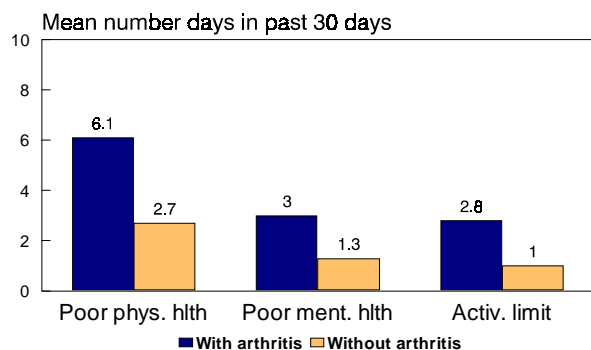


Prostate Cancer Impact Connecticut Older Men - 2001

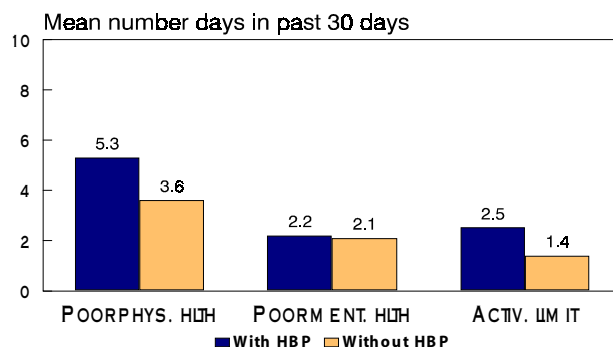


Source: BRFSS self-reports, adults age 55+.

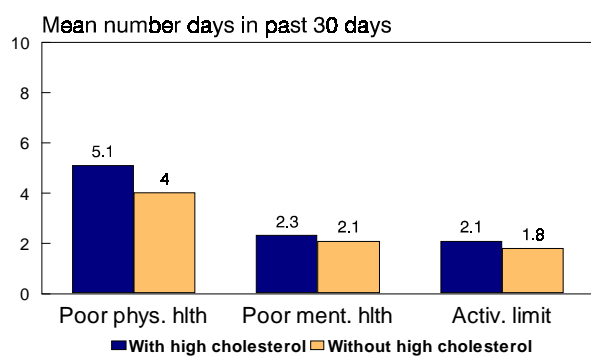
Arthritis and Poor Health Connecticut Older Adults - 2001



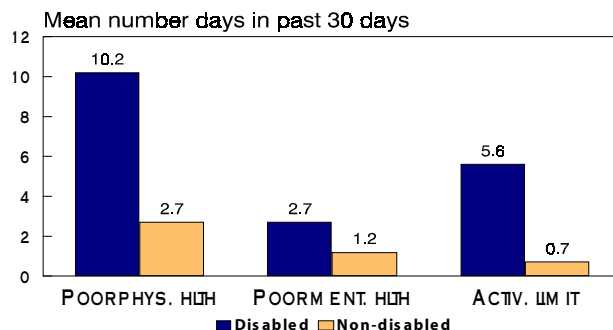
High Blood Pressure and Poor Health Connecticut Older Adults - 2001



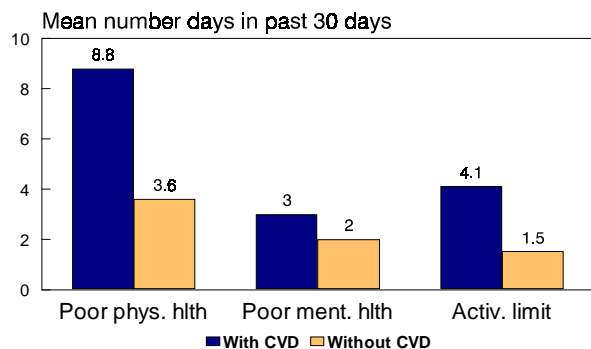
High Cholesterol and Poor Health Connecticut Older Adults - 2001



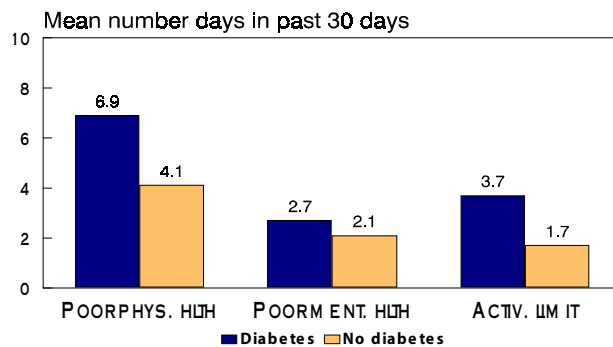
Disability and Poor Health Connecticut Older Adults - 2000



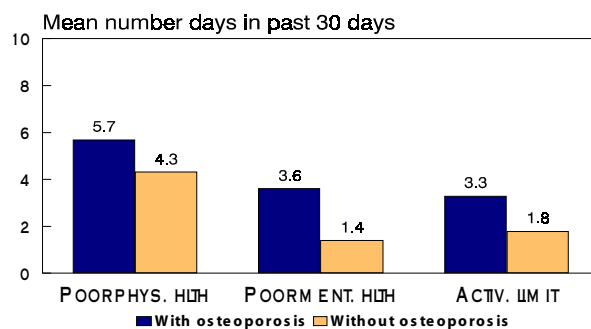
Cardiovascular Disease and Poor Health Connecticut Older Adults - 2001



Diabetes and Poor Health Connecticut Older Adults - 2001



Osteoporosis and Poor Health Connecticut Older Adults - 2000



Prostate Cancer and Poor Health Connecticut Older Men - 2001

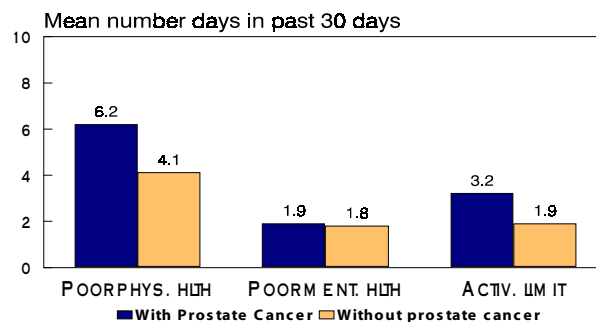


Table 3A
Summary of Health Condition Prevalence Rates and Confidence Intervals
Adults age 55 +
Connecticut BRFSS, 2000 and 2001

	Arthritis		High Blood Pressure		High Cholesterol		Disability	
	Prevalence	Confidence Interval	Prevalence	Confidence Interval	Prevalence	Confidence Interval	Prevalence	Confidence Interval
Total	50.6	48.3-52.9	46.2	43.9-48.5	41.0	38.7-43.3	24.2	21.4-27.0
Sex								
Male	41.7	38.1-45.4	44.5	40.8-48.2	40.4	36.7-44.1	24.0	19.5-28.5
Female	57.5	54.6-60.4	47.5	44.5-50.5	41.4	38.4-44.4	24.4	20.9-27.9
P-value	<0.0001		0.215		0.665		0.871	
Race/Ethnicity								
White	50.7	48.2-53.1	45.8	43.3-48.2	40.7	38.3-43.1	24.1	21.1-27.0
Black	46.1	34.2-58.0	58.2	46.2-70.2	38.4	26.5-50.3	24.2	12.2-36.2
Hispanic	50.3	37.6-63.0	45.5	33.1-58.0	46.6	33.9-59.3	29.4	15.4-43.5
Other	54.7	40.1-69.3	45.8	31.6-60.1	44.8	30.4-59.2	19.6	0-40.0
P-value	0.839		0.282		0.744		0.862	
Household Income								
<\$25,000	55.4	50.7-60.1	54.2	49.5-58.9	40.1	35.4-44.7	33.6	27.6-39.5
\$25-50,000	52.4	47.8-57.0	48.1	43.5-62.7	42.0	37.4-46.6	21.9	16.3-27.5
\$50-75,000	47.1	40.6-53.7	44.7	38.1-51.3	40.7	34.2-47.3	18.4	10.8-26.1
>\$75,000	44.0	38.4-49.6	30.9	25.8-36.0	41.7	36.1-47.3	15.3	9.7-20.9
P-value	0.013		<0.0001		0.941		0.0002	
Risk Factors								
Body Mass Index								
<25.0	43.5	39.9-47.1	37.0	33.5-40.6	36.1	32.5-39.7	19.4	15.4-23.4
25.0-29.9	51.5	47.6-55.5	48.0	44.1-52.0	45.9	41.9-49.8	22.7	18.3-27.1
≥30	62.1	56.9-67.2	60.7	55.4-65.9	41.0	35.6-46.3	37.4	29.7-45.0
P-value	<0.0001		<0.00001		0.0015		0.0003	
Leisure time Physical Activity								
No activity	56.2	52.0-60.4	53.1	48.8-57.3	40.4	36.1-44.6	32.2	26.6-37.8
Some activity	48.3	45.5-51.1	43.5	40.7-46.3	41.2	38.4-44.0	20.9	17.8-24.0
P-value	<0.0001		0.0002		0.7431		0.0007	

Table 3B
Summary of Health Condition Prevalence Rates and Confidence Intervals
Adults age 55 +
Connecticut BRFSS, 2000 and 2001

	CVD		Diabetes		Osteoporosis		Prostate Cancer	
	Prevalence	Confidence Interval	Prevalence	Confidence Interval	Prevalence	Confidence Interval	Prevalence	Confidence Interval
Total	16.8	15.1-18.5	13.1	11.5-14.7	8.8	7.0-10.6	6.0	4.4-7.7
Sex								
Male	22.3	19.2-25.4	14.9	12.3-17.5	3.6	1.7-5.5	6.0	4.4-7.7
Female	12.5	10.6-14.5	11.7	9.8-13.6	12.8	10.0-15.6	-	-
P-value	<0.0001		0.050		<0.0001			
Race/ethnicity								
White	16.5	14.7-18.4	11.9	10.3-13.6	9.4	7.4-11.4	6.0	4.3-7.8
Black	19.1	9.1-29.1	32.9	21.6-44.1	1.4	0-4.0	9.0	0-18.7
Hispanic	16.4	7.5-25.3	22.5	12.5-32.5	7.1	0.4-13.8	3.7	0-10.7
Other	21.4	10.1-32.6	11.5	3.5-19.4	6.1	0-13.4	4.5	0-11.0
P-value	0.821		0.002		0.002		0.808	
Household Income								
<\$25,000	24.7	20.6-28.8	17.8	14.3-21.2	11.7	7.5-15.8	8.1	3.8-12.5
\$25-50,000	18.4	14.9-21.9	13.9	10.7-17.1	7.2	3.5-10.8	5.9	2.8-9.0
\$50-75,000	12.8	8.1-17.4	12.7	8.1-17.3	8.3	2.9-13.7	8.6	3.0-14.1
>\$75,000	10.0	6.4-13.6	6.4	3.4-9.4	2.8	0.6-4.9	4.3	1.4-7.2
P-value	<0.0001		<0.0001		0.001		0.398	
Risk Factors								
Body Mass Index								
<25.0	12.0	9.6-14.4	6.3	4.5-8.1	9.2	6.3-12.1	5.9	3.0-8.9
25.0-29.9	18.9	15.9-21.9	15.0	12.2-17.8	8.1	5.4-10.8	6.0	3.5-8.4
≥30	22.9	18.4-27.4	23.2	18.8-27.7	7.6	3.7-11.5	5.8	2.3-9.2
P-value	<0.0001		<0.0001		0.785		0.9948	
Leisure time Physical Activity								
No activity	23.2	19.6-26.7	18.8	15.5-22.0	11.6	7.8-15.3	5.7	2.5-8.8
Some activity	14.2	12.3-16.2	10.8	9.1-12.6	7.7	5.6-9.8	6.1	4.1-8.0
P-value	<0.0001		<0.0001		0.0752		0.8214	

Table 4
Measures of Health Status
Adults age 55 +, With and Without Health Conditions
Connecticut BRFSS, 2000 and 2001

	Fair/Poor Health		Disability		Number of days of poor health/activity limitation in past 30 days					
	%	CI*	%	CI*	Physical Health		Mental Health		Activity Limited	
					Mean	CI*	Mean	CI*	Mean	CI*
Arthritis										
With arthritis	27.0	24.2-29.8	32.6	29.6-35.6	6.1	5.4-6.8	3.0	2.5-3.5	2.8	2.3-3.3
W/O arthritis	13.7	11.4-16.0	11.9	9.7-14.1	2.7	2.3-3.2	1.3	1.0-1.6	1.0	0.7-1.4
High Blood Pressure (HBP)										
With HBP	27.7	24.7-30.7	26.3	23.3-29.3	5.3	4.7-5.9	2.2	1.7-2.6	2.5	2.0-3.0
Without HBP	13.9	11.7-16.1	19.0	16.5-21.5	3.6	3.1-4.2	2.1	1.7-2.5	1.4	1.1-1.8
High Cholesterol										
W/ high cholesterol	23.1	20.0-26.2	25.6	22.4-28.8	5.1	4.4-5.7	2.3	1.8-2.7	2.1	1.6-2.6
W/O high cholesterol	18.1	15.7-20.5	19.7	17.3-22.1	4.0	3.4-4.5	2.1	1.7-2.4	1.8	1.4-2.2
Disability Status										
Disabled	49.7	43.1-56.3	-	-	10.2	8.4-11.9	2.7	1.8-3.5	5.6	4.2-7.0
Not Disabled	14.1	11.2-17.0	-	-	2.7	2.1-3.2	1.2	0.9-1.6	0.7	0.5-1.0
Cardiovascular Disease										
With CVD	39.9	34.4-45.4	38.9	33.4-44.4	8.8	7.4-10.1	3.0	2.1-4.0	4.1	3.0-5.1
Without CVD	16.5	14.6-18.4	19.0	17.0-21.0	3.6	3.2-4.0	2.0	1.7-2.3	1.5	1.2-1.8
Diabetes										
With diabetes	41.4	35.1-47.7	38.7	32.4-45.0	6.9	5.5-8.3	2.7	1.7-3.6	3.7	2.6-4.8
Without diabetes	17.2	15.3-19.1	19.9	17.9-21.9	4.1	3.6-4.5	2.1	1.8-2.4	1.7	1.4-1.9
Osteoporosis										
W/osteoporosis	36.9	26.4-47.4	40.9	30.3-51.5	5.7	3.4-8.0	3.6	1.6-5.7	3.3	1.4-5.2
W/O osteoporosis	21.2	18.3-24.1	22.6	19.8-25.4	4.3	3.7-4.9	1.4	1.1-1.7	1.8	1.4-2.2
Prostate Cancer										
With prostate cancer	36.3	22.3-50.3	17.6	7.2-28.0	6.2	3.1-9.2	1.9	0.5-3.2	3.2	0.7-5.6
W/O prostate cancer	17.7	14.9-20.5	22.1	18.9-25.3	4.1	3.4-4.7	1.8	1.3-2.2	1.9	1.4-2.4
* 95% Confidence Interval; shading indicates significant difference (for means, based on confidence intervals that do not overlap).										

The eight conditions discussed in this report do not represent all the chronic conditions affecting age 55 and older, but they do indicate that the impact of chronic conditions on older adults is considerable. In addition, these data represent only persons who live at home, not those in nursing homes. Yet growing old does not necessarily lead to developing one of these conditions or becoming disabled. About three-fourths of Connecticut older adults are not disabled, and thousands do not report any chronic conditions. But there is a clear association between these conditions and functional health status, and a key objective for all adults should be to avoid developing chronic conditions that might lead to disability. Among older adults without arthritis, cardiovascular disease, diabetes, high blood pressure or high cholesterol, only 7.5% were disabled. Among older adults with only one of these five conditions, the prevalence of disability was 18.4%, increasing to 21.7% for those with two, and to 39.6% for those with more than 2 chronic conditions.

The economic costs associated with health care for older adults with chronic conditions are high and they are expected to rise. Although much of these costs is associated with nursing homes, home health care expenses for persons age 65 and older were estimated to be \$27.2 billion in 1996. For the 13% of the elderly who incurred such costs, the average annual expense was \$6,041. While Medicare and other insurance covered much of the cost, \$876 of the total was paid out of pocket.¹⁵ The key factor associated with the need for home health care was found to be difficulty in bathing, dressing, eating or using the toilet.¹⁶ Among disabled older adults surveyed on the BRFSS in 2000 (non-disabled weren't asked), 9% indicated they required such care and 25% needed help with routine needs such as household chores, shopping, or getting around. Among all disabled older adults, 3.5% reported they did not have health insurance, and 7.9% said there was a time in the past year when they needed to see a doctor, but could not because of the cost.

Certain risk reduction strategies can reduce the chance of an older adult becoming disabled and, in turn, aid in keeping down health care costs. Regular health screenings can identify problems at a stage when they can be successfully treated. Adoption of a healthy lifestyle that avoids tobacco and includes a nutritious diet and regular exercise can reduce the risk of chronic conditions. In addition to keeping down health care costs, these strategies can result in more years of healthy life.

For adults age 55 and older who already have one of these conditions - in particular arthritis, diabetes, high blood pressure, and cardiovascular disease - proper management is a major factor in avoiding disability. Self-management programs can help older adults maintain or improve their functional ability. For example, a Chronic Disease Self-Management Program (CDSMP) that teaches patients how to better manage their symptoms and take their medications properly has been shown to maintain functional ability and reduce health care costs over a 2-year period.¹⁷ Although older adults have not traditionally been targeted for public health programs, the projected increases in population size and longevity, coupled with the success of self-management and risk reduction programs such as these, make it imperative that this group deserves attention.

V. References

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